**TRANSMITTAL SLIP** | DATE 3-22-71

TO [redacted] STAT

ROOM

REMARKS:

It is requested that the attached critique be filled out to the extent of your association with the Engineering Systems Analysis Course and returned to this office by 2 April 1971.

Thank You.

FROM [redacted] STAT

ROOM NO. 606 | BUILDING Ames

FORM NO. 241 1 FEB 55 REPLACES FORM 36-8 WHICH MAY BE USED. (47)

# COURSE CRITIQUE

Please rate 1-10 (poor to excellent respectively) by placing a check on the scale given. Comment below question where indicated. Use back of pages if needed.

FORM

RATING

1. Format of the course was intended to accommodate to a rough 5% time commitment and to provide for a full-day class treatment of a particular topical area. Please rate:

| | | |
|---|---|---|
| 1 day/month | 1 | 1 |
| 4 hours/every 2 weeks | 1 | 1 |

Other Alternatives:

2. The point of the applications session was to illustrate where current course material was utilized in the real world. Please rate effectiveness:

| | | |
|---|---|---|
| Material relevance | 1 | 1 |
| Applications speakers | 1 | 1 |

3. The purpose of the homework was to exercise topical material with about 8 hours of work. Please rate these:

| | | |
|---|---|---|
| 3 one-hour problems | 1 | 1 |
| 20 ten-minute problems | 1 | 1 |

4. The goal of the intermediate 2-hour session was to give a "keep-alive" exercise in the topical area. Please rate these alternatives for continuity:

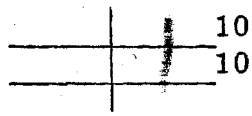
| | | |
|---|---|---|
| Problem-solving session | 1 | 1 |
| Second applications session | 1 | 1 |

No mark implies I can't comment meaningfully.
A mark in the center line implies neutrality

gp

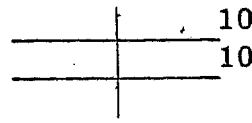
5. The class was intended to be weighted towards a blackboard-pictorial development in order to convey modelling concepts more readily. Please rate:

| | | |
|---|---|---|
| Diagrammatic presentation | 1 | 10 |
| Mix of vuegraphs & chalkboard | 1 | 10 |



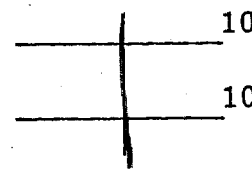
6. The symbology of various systems disciplines is confusing due to the separate source developments. An effort at consistency was made in order to permit cross interpretation within the technical literature. Please rate effectiveness:

| | | |
|---|---|---|
| Common symbology | 1 | 10 |
| Example illustrations | 1 | 10 |



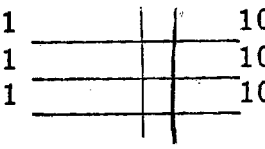
7. The intent of notes and handout material furnished throughout the month was to tie course topics to technical literature. Please rate:

| | | |
|---|---|---|
| Effectiveness of handout reprints | 1 | 10 |
| Effectiveness of specially developed handouts | 1 | 10 |



8. General impedimenta such as same room same day/month, same format, etc., for providing continuity. Please rate:

| | | |
|---|---|---|
| Room | 1 | 10 |
| Day | 1 | 10 |
| Daily sequence | 1 | 10 |



9. The course was designed to present a semi-unitary approach to several disciplines: Please rate applicable areas 1-10:

| | | | | | |
|---|---|---|---|---|---|
| Communications | 10 | Optics | 8 | Acoustics | 6 |
| Hum. Eng. & Biomed. | 4 | Seismics | 9 | Pictorial | 7 |
| Computer Technology | 4 | | | | |

SUBSTANCE RATING

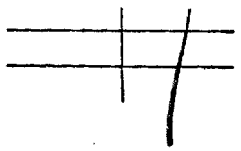
10. The course material was split 50% basic math tools and 50% in commonality subsystems. (Those subsystems which are pervasive in designs across disciplines.) The sequence was that recommended by ASEE for math modelling related to several fields. Please rate:

| | | |
|---|---|---|
| Balance of material | 1 | 10 |
| Total content | 1 | 10 |

The sequence is given below for each session. Please give your rating for both material content and for the applications given both formally and in the course of concept development.

11. Session I; Vectorial Representation; matrices, num. analysis, linear systems, sampling, manipulation

| | | |
|---|---|---|
| Material | 1 | 10 |
| Application | 1 | 10 |

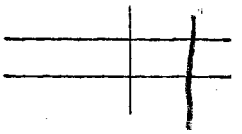


12. Session II; Transforms; convolution, Fourier and Laplace transformations, Z transforms, impulse response, numerical analysis.

| | | |
|---|---|---|
| Material | 1 | 10 |
| Application | 1 | 10 |

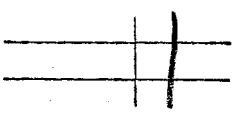
13. Session III; Probability and Statistics; random var., expectancy, density functions, distributions, confidence limits

| | | |
|---|---|---|
| Material | 1 | 10 |
| Application | 1 | 10 |



14. Session IV; Stochastic Variable; stationarity, ergodicity, moments, correlation, power spectral density, white noise, square law detection.

| | | |
|---|---|---|
| Material | 1 | 10 |
| Application | 1 | 10 |



15. Session V; Signal Detection; value, cost liklihood ratio detection, Bayes Law.

Material 1 ——— 10
Application 1 ——— 10

16. Session VI; Detector Subsystems I; receiver operating characteristics, detection situations, S/N ratio, data smoothing and prediction.

Material 1 ——— 10
Application 1 ——— 10

17. Session VII; Detector Subsystems II; non-white noise, whitening, matched filtering, threshold, detectability Markov chains.

Material 1 ——— 10
Application 1 ——— 10

18. Session VIII; Spatial Processing I; space-time relationships, spatial filtering, correlation matrix for signal and noise.

Material 1 ——— 10
Application 1 ——— 10

19. Session IX Spatial Processing II; optimum array, shading, optimum filtering, lobe periodicity.

Material 1 ——— 10
Application 1 ——— 10

20. Session X; Servomechanisms and Control; closed loop systems, regulation, feedback, root locus, stability criteria, bang-bang systems.

| | | |
|---|---|---|
| Material | 1 | 10 |
| Application | 1 | 10 |

21. Session XI; Modulation; analog modulation, AM, FM, PM, supressed band modulation, effects of index of modulation noise immunity.

| | | |
|---|---|---|
| Material | 1 | 10 |
| Application | 1 | 10 |

22. Session XII; Modulation; PPM, PWM, PCM, error correction codes, noise immunity, entropy. (Content Only)

| | | |
|---|---|---|
| Material | 1 | 10 |
| Application | 1 | 10 |